FIG. 1
Related Art

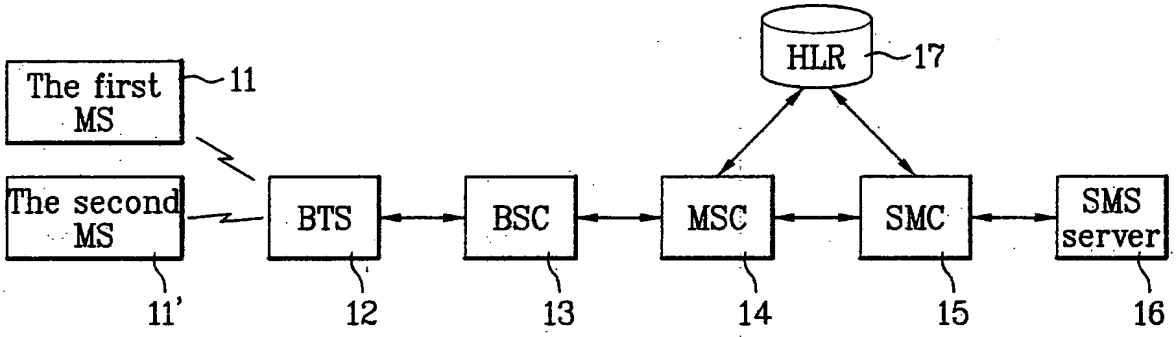


FIG. 2

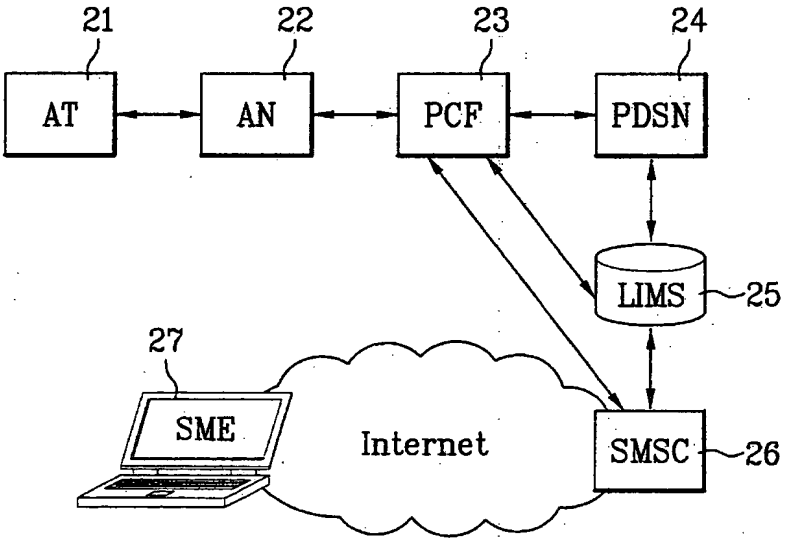


FIG. 3

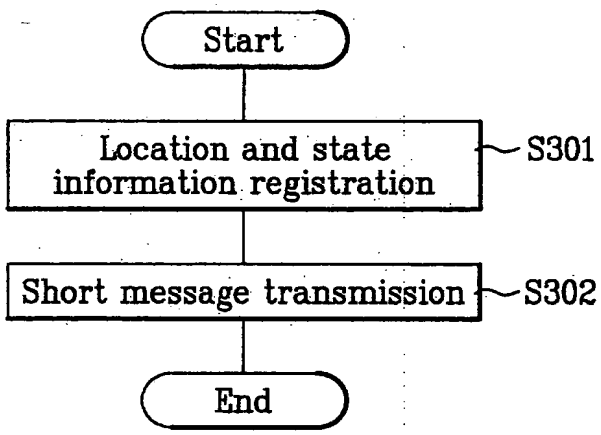


FIG. 4

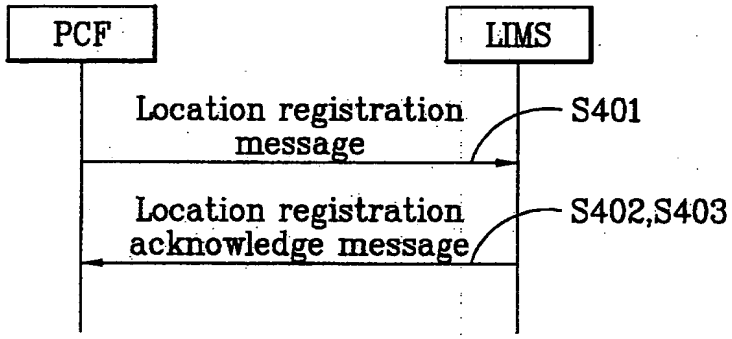


FIG. 5

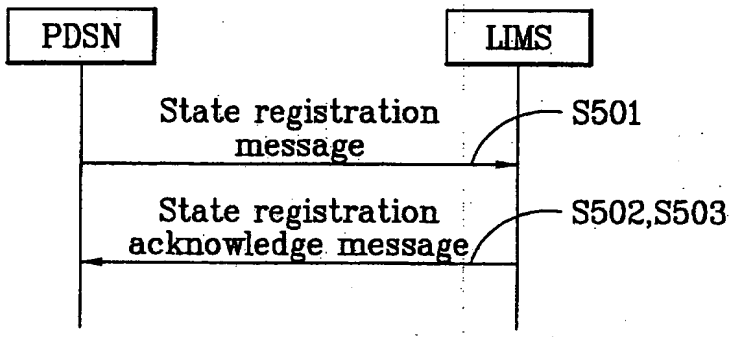


FIG. 6

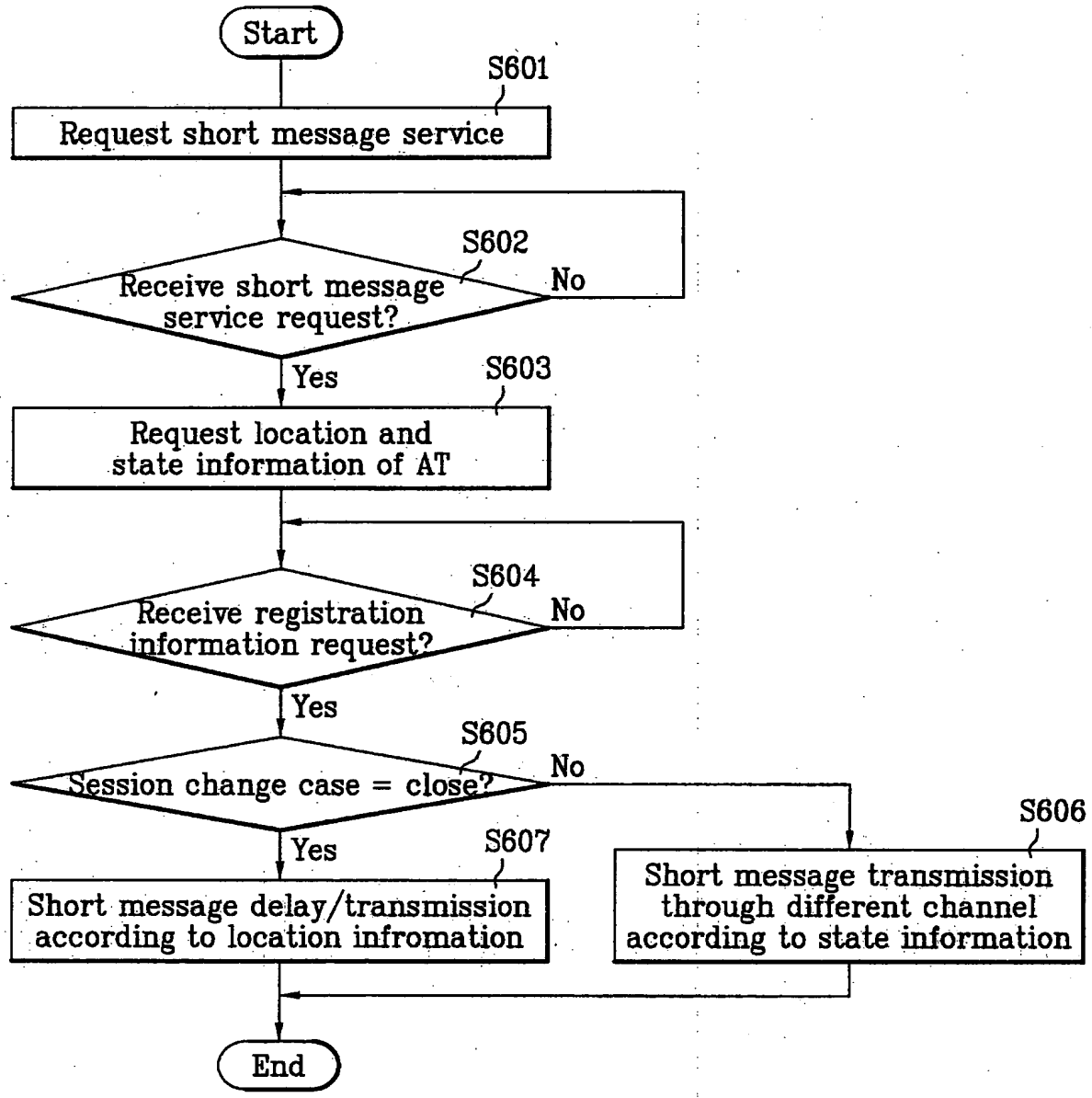

Start
S601
Request short message service
S602
Receive short message service request?
No
Yes
S603
Request location and state information of AT
S604
Receive registration information request?
No
Yes
S605
Session change case = close?
No
Yes
S606
Short message transmission through different channel according to state information
S607
Short message delay/transmission according to location infromation
End

FIG. 7

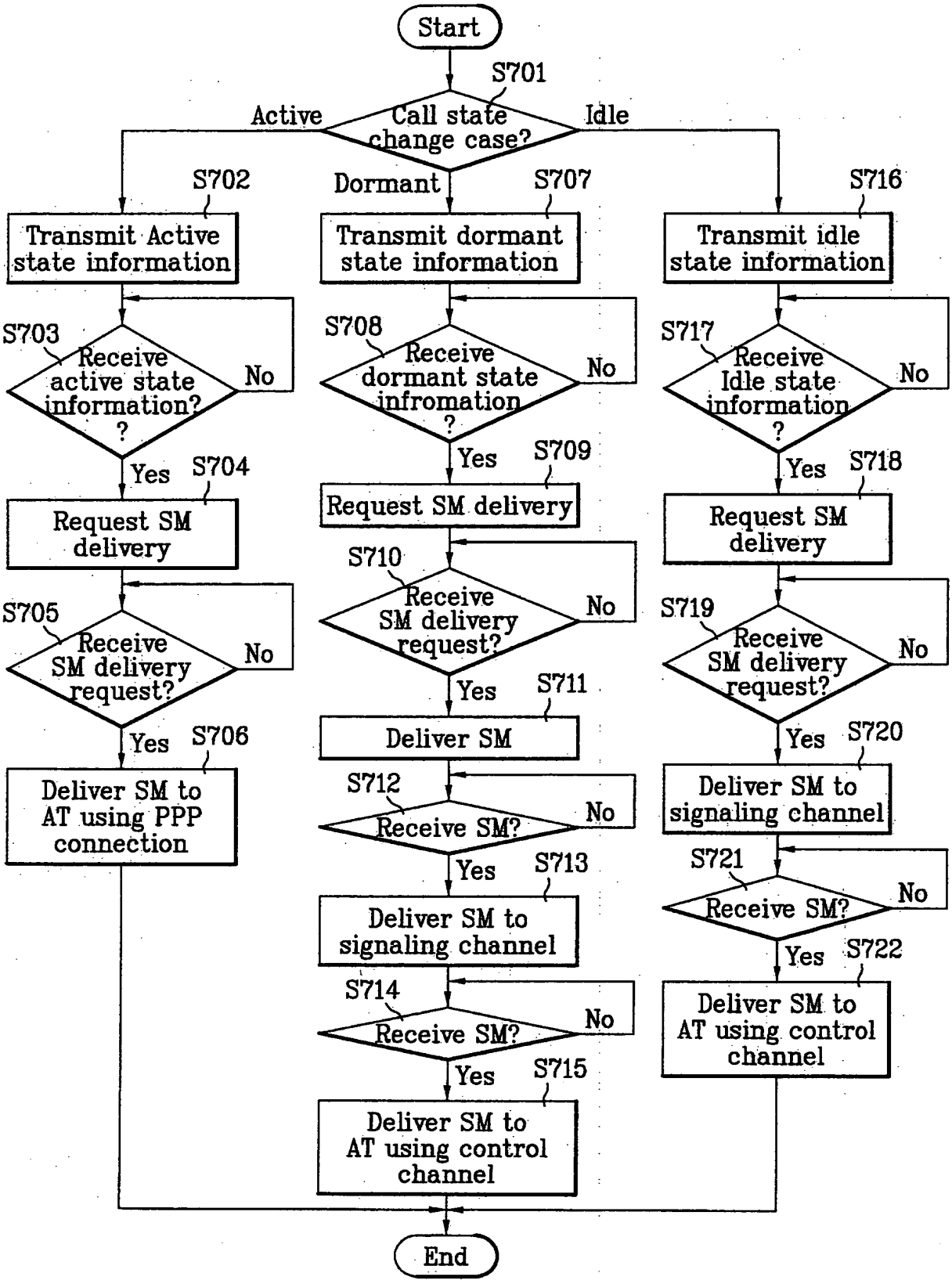

Start
S701
Call state change case?
Active
Dormant
Idle
S702
Transmit Active state information
S703
Receive active state information?
No
Yes
S704
Request SM delivery
S705
Receive SM delivery request?
No
Yes
S706
Deliver SM to AT using PPP connection
S707
Transmit dormant state information
S708
Receive dormant state infromation?
No
Yes
S709
Request SM delivery
S710
Receive SM delivery request?
No
Yes
S711
Deliver SM
S712
Receive SM?
No
Yes
S713
Deliver SM to signaling channel
S714
Receive SM?
No
Yes
S715
Deliver SM to AT using control channel
S716
Transmit idle state information
S717
Receive Idle state information?
No
Yes
S718
Request SM delivery
S719
Receive SM delivery request?
No
Yes
S720
Deliver SM to signaling channel
S721
Receive SM?
No
Yes
S722
Deliver SM to AT using control channel
End

FIG. 8

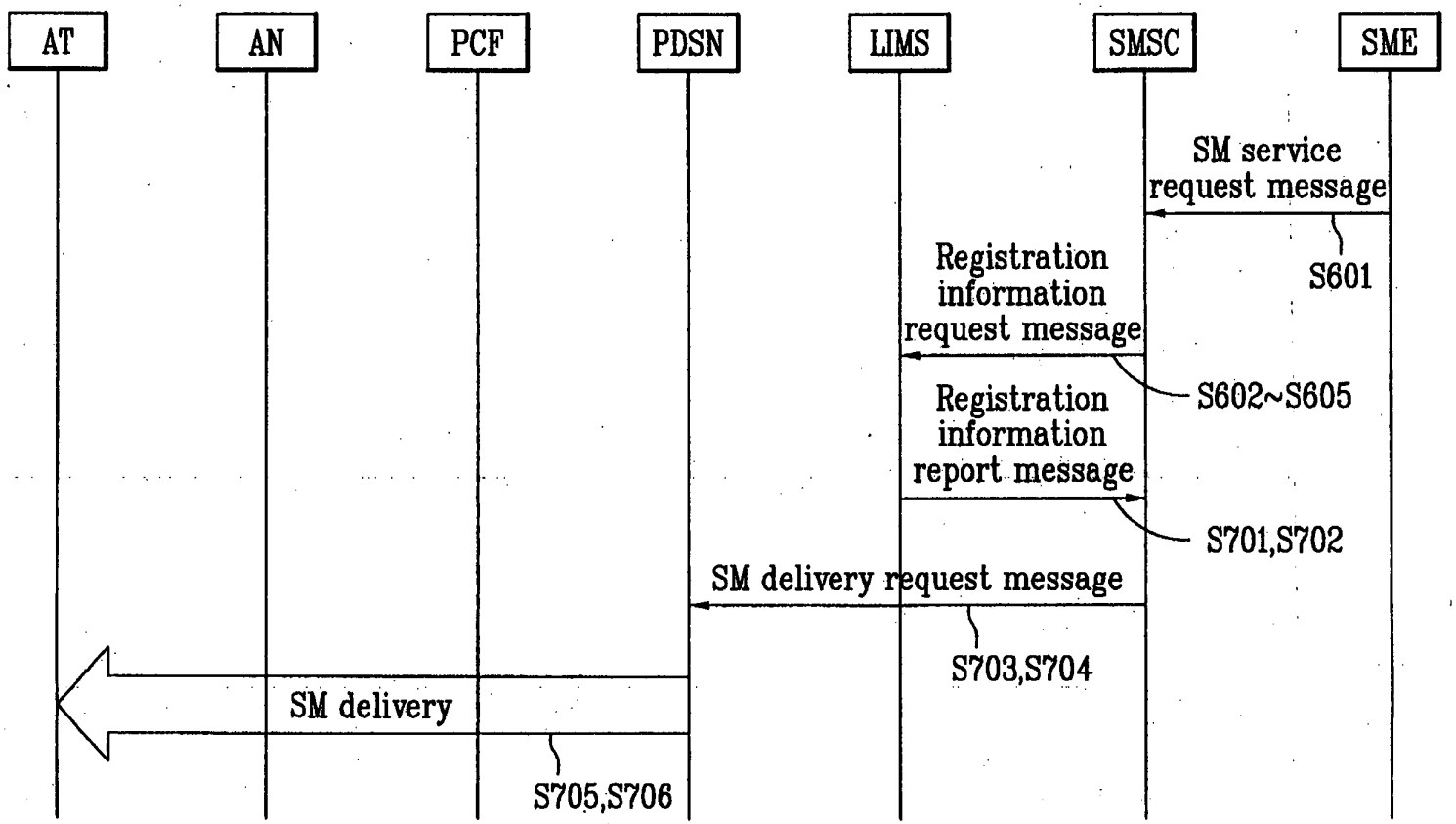

AT
AN
PCF
PDSN
LIMS
SMSC
SME
SM service request message
S601
Registration information request message
S602~S605
Registration information report message
S701,S702
SM delivery request message
S703,S704
SM delivery
S705,S706

FIG. 9

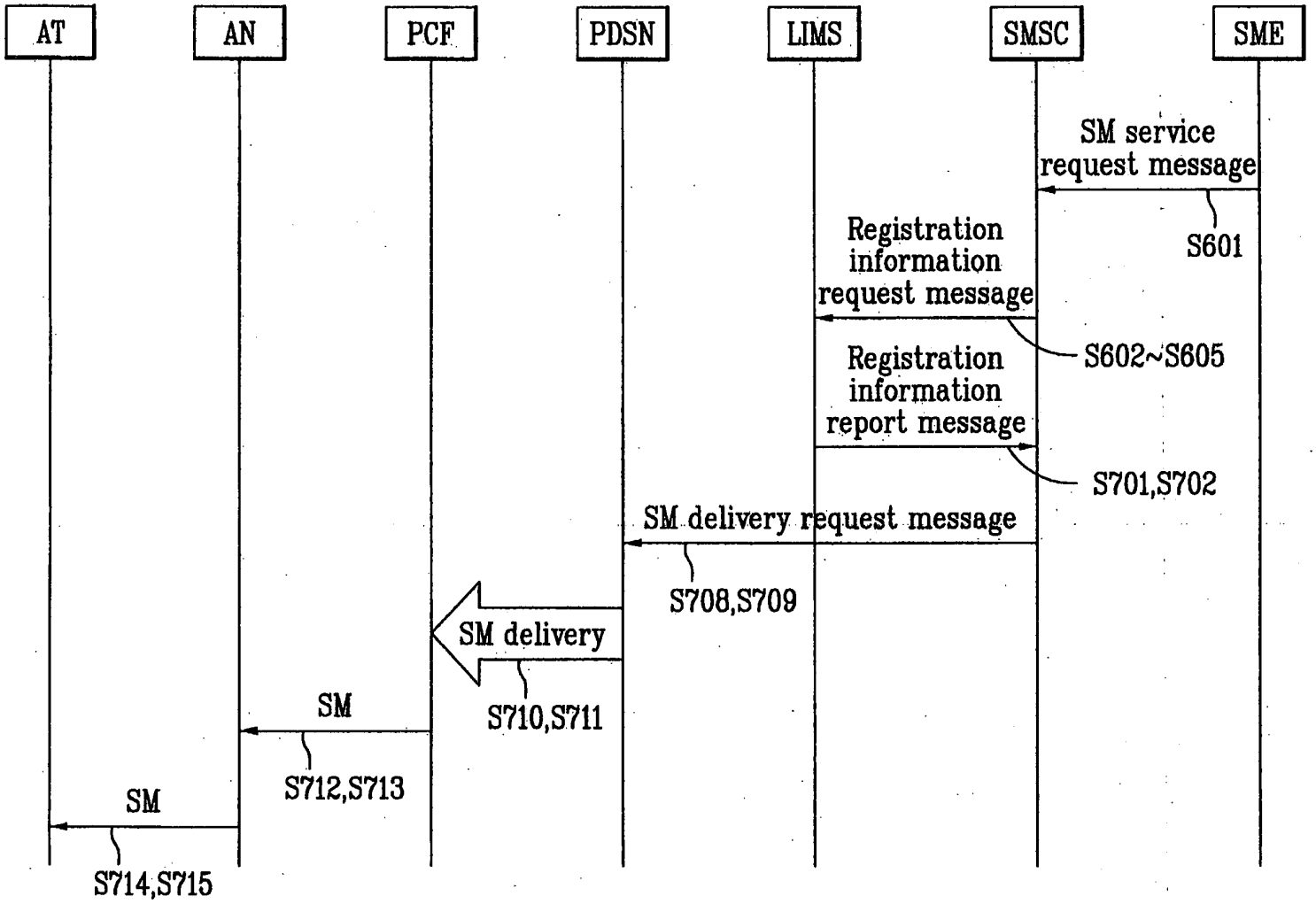

AT
AN
PCF
PDSN
LIMS
SMSC
SME
SM service request message
S601
Registration information request message
S602~S605
Registration information report message
S701,S702
SM delivery request message
S708,S709
SM delivery
S710,S711
SM
S712,S713
SM
S714,S715

FIG. 10

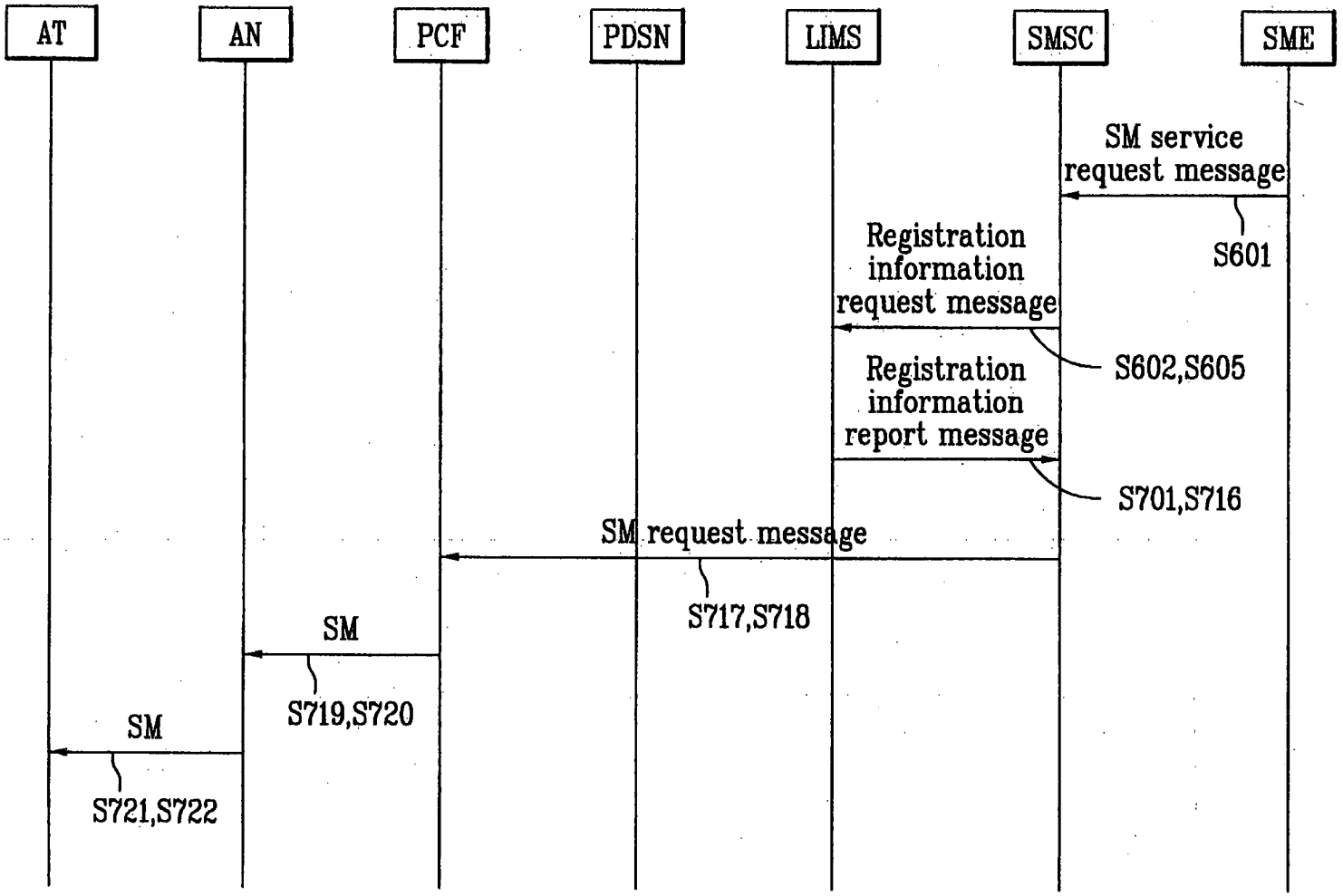

AT
AN
PCF
PDSN
LIMS
SMSC
SME
SM service request message
S601
Registration information request message
S602,S605
Registration information report message
S701,S716
SM request message
S717,S718
SM
S719,S720
SM
S721,S722

FIG. 11

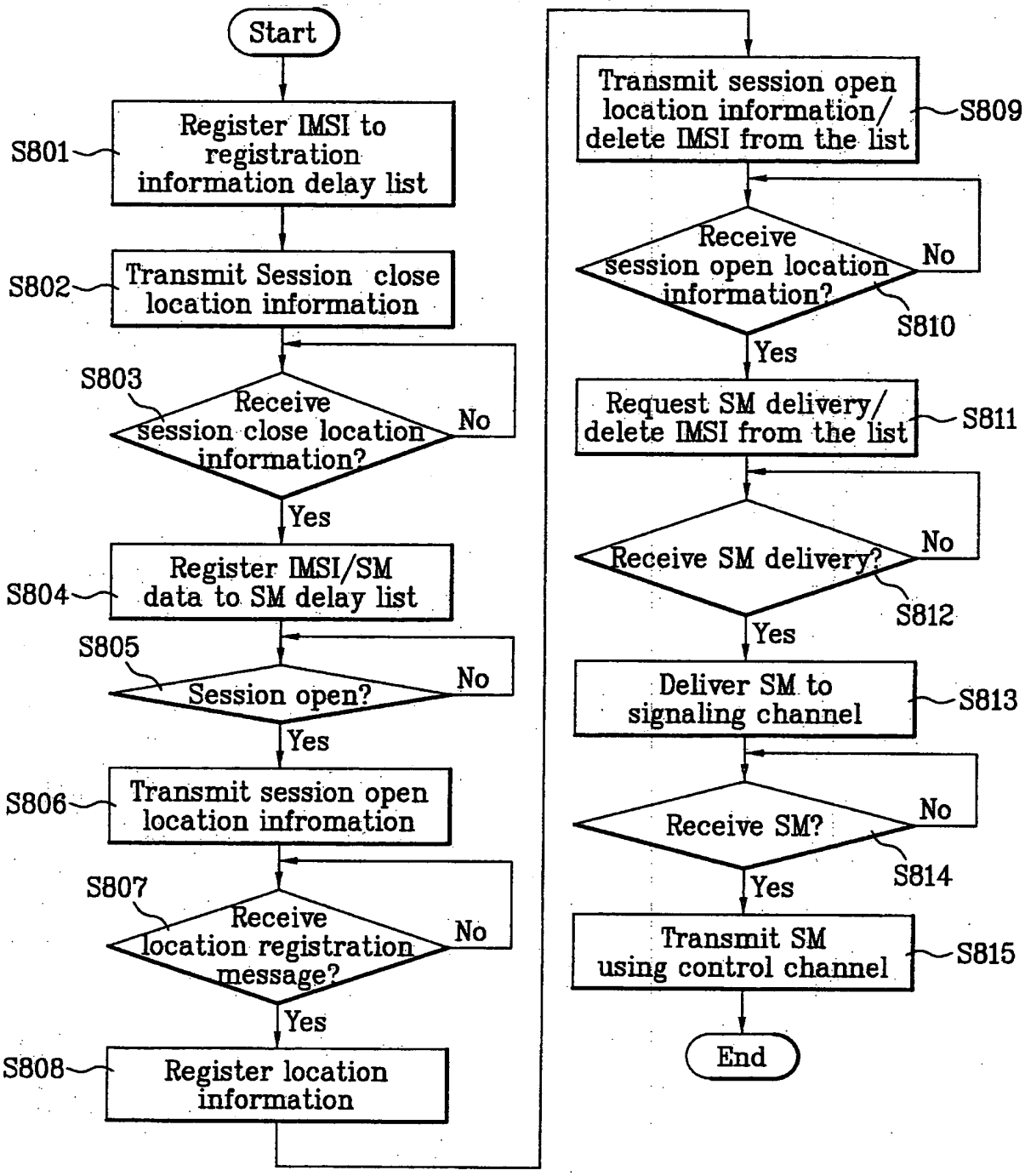
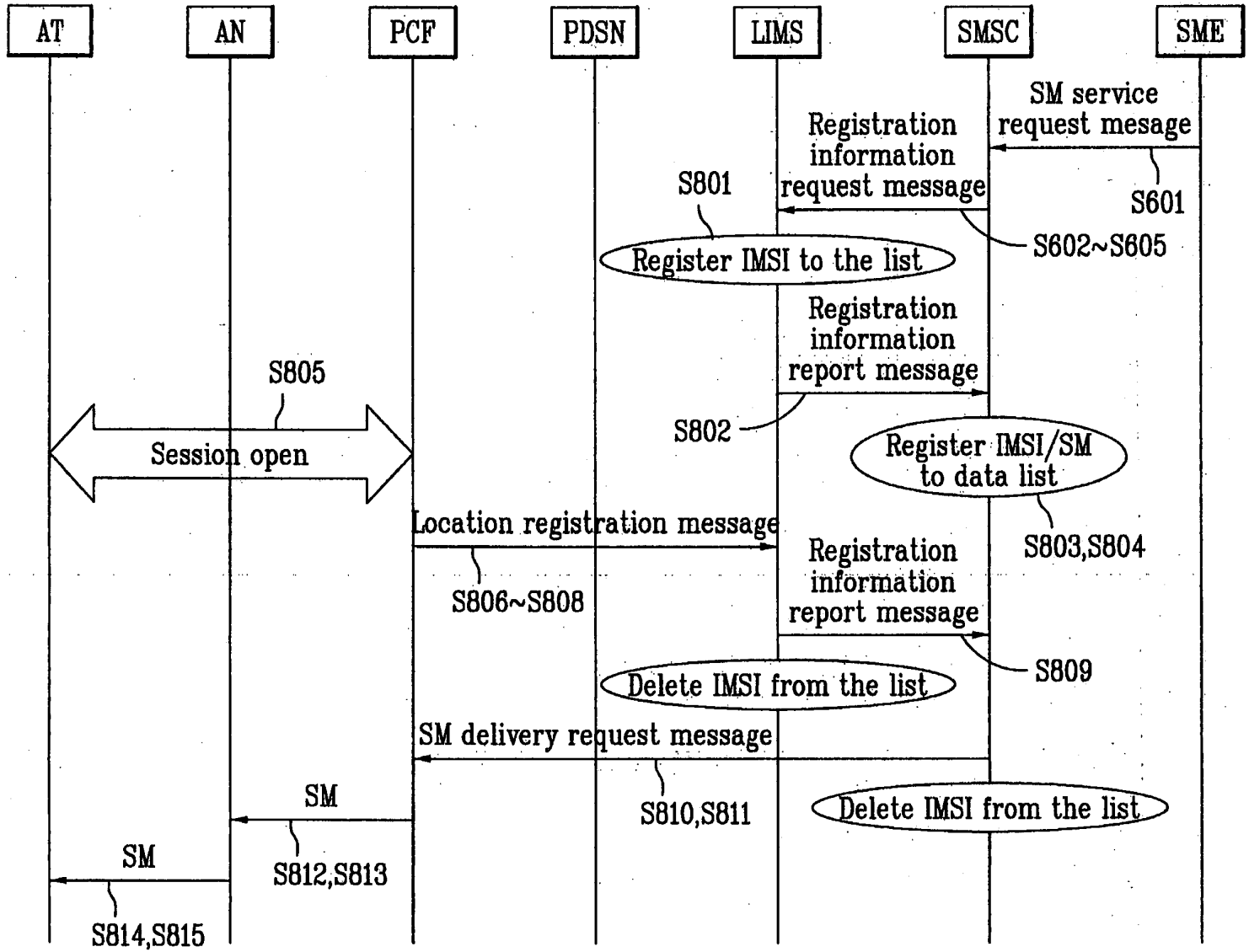

Start
S801
Register IMSI to registration information delay list
S802
Transmit Session close location information
S803
Receive session close location information?
No
Yes
S804
Register IMSI/SM data to SM delay list
S805
Session open?
No
Yes
S806
Transmit session open location infromation
S807
Receive location registration message?
No
Yes
S808
Register location information
S809
Transmit session open location information/ delete IMSI from the list
Receive session open location information?
No
S810
Yes
S811
Request SM delivery/ delete IMSI from the list
Receive SM delivery?
No
S812
Yes
S813
Deliver SM to signaling channel
Receive SM?
No
S814
Yes
S815
Transmit SM using control channel
End

FIG. 12


AT
AN
PCF
PDSN
LIMS
SMSC
SME
SM service request mesage
S601
Registration information request message
S602~S605
S801
Register IMSI to the list
Registration information report message
S802
S805
Session open
Register IMSI/SM to data list
S803,S804
Location registration message
S806~S808
Registration information report message
S809
Delete IMSI from the list
SM delivery request message
S810,S811
Delete IMSI from the list
SM
S812,S813
SM
S814,S815